

**WHAT IS CLAIMED IS:**

1.       An auto focus system, comprising:
  - an auto focus device which acquires a focus evaluation value indicating a degree of sharpness of an object image in a predetermined focus area set up within a viewing area according to a picture signal obtained from a camera, controls a focus of a taking lens so that the focus evaluation value indicates a best focus, and automatically focuses on a major object in the focus area;
  - a filter device which extracts a signal of a high-frequency component from the picture signal;
  - a major object position determination device which determines a position on the viewing area of the major object focused by the auto focus device according to the signal of the high-frequency component extracted by the filter device; and
  - a modification device which modifies at least one of a range of the focus area and the viewing area of the camera so that the focus area includes the position of the major object determined by the major object position determination device.
2.       The auto focus system as defined in claim 1, wherein the major object position determination device obtains by the filter device the signals of the high-frequency components corresponding to a first image picked up by the camera and a second image picked up by the camera after passage of a predetermined time from picking up of the first image, and compares the signal of the high-frequency component of the second image to the signal of the high-frequency component of the first image so as to acquire a shift amount of the position of the major object in the second image against the position of the major object in the first image.
3.       The auto focus system as defined in claim 2, wherein the modification device displaces the at least one of the range of the focus area and the viewing area of the camera by the shift amount acquired by the major object position determination device.